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Revision 1
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Waste Management Plan for the Test Area North, Operable Unit 1-10 Group 1 Sites Remedial Action

May 2003

Idaho National Engineering and Environmental Laboratory
Bechtel BWXT Idaho, LLC

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May 2003

Idaho National Engineering and Environmental Laboratory
Idaho Completion Project
Idaho Falls, Idaho 83415

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ABSTRACT

This waste management plan describes waste management and minimization activities associated with the August 2000 *Comprehensive Remedial Design/Remedial Action Work Plan for Test Area North, Operable Unit 1-10 Group 1 Sites* remedial action to be performed at the Idaho National Engineering and Environmental Laboratory.

Waste management activities described in this plan will support the selected remedial actions presented in the *Final Record of Decision for Test Area North*. This waste management plan identifies waste streams that will be generated during the implementation of the *Remedial Design/Remedial Action Work Plan for Operable Unit 1-10 Group 1 sites*, and also the sampling of the PM-2A Tanks which is a Group 3 site.

This plan identifies types and volumes (when possible) of waste anticipated to be generated during the remedial action. In addition, this plan addresses waste characterization strategy; requirements for waste storage, transportation, and treatment; and designated facilities for ultimate disposal of the remedial action waste.

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ACRONYMS

AOC	area of contamination
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CLP	Contract Laboratory Program
cpm	counts per minute
D&D&D	deactivation, decontamination, and decommissioning
DART/M1	gamma spectrometry system
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
EDF	engineering design file
EPA	U.S. Environmental Protection Agency
FFA/CO	Federal Facilities Agreement and Consent Order
FRG	final remediation goal
HWD	hazardous waste determination
ICDF	INEEL CERCLA Disposal Facility
INEEL	Idaho National Engineering and Environmental Laboratory
IWTS	Integrated Waste Tracking System
IW	industrial waste
LLW	low-level waste
LOFT	Loss-of-Fluid Test (facility)
LSA	low specific activity
MLLW	mixed low-level waste
OU	operable unit
PCB	polychlorinated biphenyl
PPE	personal protective equipment

RCRA	Resource Conservation and Recovery Act
RD/RA	remedial design and remedial action
RI/FS	remedial investigation and feasibility study
ROD	record of decision
RWMC	Radioactive Waste Management Complex
SVOC	semivolatile organic compound
TAN	Test Area North
TSCA	Toxic Substances Control Act
TSF	Technical Support Facility
UST	underground storage tank
VOC	volatile organic compound
WAC	waste acceptance criteria
WAG	Waste Area Group
WGS	Waste Generator Services
WMP	waste management plan
WSA	waste storage area
WTS	waste technical specialist

Waste Management Plan for the Test Area North, Operable Unit 1-10 Group 1 Sites Remedial Action

1. PURPOSE AND OBJECTIVES

This waste management plan (WMP) is designed to support waste management and minimization activities associated with the *Comprehensive Remedial Design/Remedial Action Work Plan for Test Area North, Operable Unit 1-10 Group 1 Sites* (DOE-ID 2003a) to be performed at the Idaho National Engineering and Environmental Laboratory (INEEL).

This WMP describes the management of all waste generated during the Operable Unit (OU) 1-10 Group 1 sites Remedial Action Project at the INEEL Test Area North (TAN). The remedial action is being performed to implement remedies identified in the *Final Record of Decision for Test Area North* (DOE-ID 1999). This action is being performed under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC § 9601 et seq.), as implemented by the *Federal Facilities Agreement and Consent Order* (FFA/CO) (DOE-ID 1991).

This plan identifies the types and the volumes (when possible) of waste anticipated to be generated during the remedial action. In addition, this plan addresses waste characterization strategy; requirements for waste storage, transportation, and treatment; and designated facilities for ultimate disposal of the remedial action waste.

The remedial action for OU 1-10 is divided into three site groups. Group 1 comprises the following sites:

- Soil contamination area south of the turntable ([TSF-06 Area B)
- Disposal Pond (TSF-07)
- PM-2A Tanks (TSF-26) soil excavation
- Fuel leak site (WRRTF-13).

Group 2 comprises V-Tanks (TSF-09 and TSF-18).

Group 3 comprises the following sites:

- PM-2A Tanks, tank contents, and soil below the surface surrounding the tanks
- Burn pits (TSF-03 and WRRTF-01).

This WMP is written for waste generated from two of the Group 1 sites, the soil contamination area south of the turntable, TSF-06 Area B, and the PM-2A Tanks (TSF-26) soil excavation. The remaining Group 1 sites are (1) covered by another decision document, (2) were documented as "No Action" or "No Further Action" sites in the OU 1-10 Record of Decision (ROD) (DOE-ID 1999), or (3) will be further evaluated by another Waste Area Group (WAG) at the INEEL.

This WMP also addresses the types of waste generated from the sampling of the PM-2A Tank contents and soil below the surface around the tank, which are both included in the Group 3 sites.

Remediation activities that generate the waste discussed in this plan will occur within the area of contamination (AOC) at the PM-2A Tanks and the TSF-26 and TSF-06 soil sites. That waste may be stored, treated, or disposed of at appropriate waste management facilities. The majority of waste generation is anticipated to occur during implementation of the remedial action work task activities listed below:

- Sampling of the PM-2A Tank contents
- Removal of the TSF-06 overburden
- Sampling of the TSF-06 Area B native soil area within fenced perimeter
- Sampling of the TSF-06 Area B ditch located alongside southern fence line
- Sampling of the TSF-06 Area B soil area surrounding PM-2A Tank feed lines
- Sampling of the TSF-06 Area B Snake Avenue northern shoulder, roadbed, and asphalt
- Sampling of the TSF-26 native soil area within the perimeter fence, including soil outside eastern gate
- Sampling of the TSF-26 southern shoulder of Snake Avenue
- Sampling of the TSF-26 area immediately surrounding the PM-2A Tanks
- Sampling of the TSF-26 soil area surrounding PM-2A Tank feed lines
- Sampling of the sand inside the concrete troughs for the PM-2A Tanks
- Sampling of the TSF-26 debris located within the fenced perimeter
- Removal of contaminated TSF-06 native soil, asphalt, and roadbed material associated with Snake Avenue as necessary
- Removal of TSF-26 native soil as necessary.

2. SITE BACKGROUND

This section provides an overview of the history, location, and previous field activities conducted at this work site. Previous investigation data results are presented to characterize site conditions.

2.1 Site Description and History

The INEEL, a government-owned facility managed by the U.S. Department of Energy (DOE), is located in southeastern Idaho, 51.5 km (32 miles) west of Idaho Falls, as shown in Figure 2-1. The INEEL encompasses approximately 2,305 km^2 (890 mi^2) of the northwestern portion of the eastern Snake River Plain and extends into portions of five Idaho counties.

In November 1989, because of confirmed contaminant releases to the environment, the Environmental Protection Agency (EPA) placed the INEEL on the "National Priorities List of the National Oil and Hazardous Substances Contingency Plan" (54 FR 48184). In response to this listing, the DOE, EPA, and the Idaho Department of Environmental Quality (herein referred to as the Agencies) negotiated the FFA/CO and Action Plan (DOE-ID 1991b). The Agencies signed these documents in 1991, establishing the procedural framework and schedule for developing, prioritizing, implementing, and monitoring response actions at the INEEL in accordance with CERCLA, the Resource Conservation and Recovery Act (RCRA) (42 USC § 6901 et seq.), and the Idaho Hazardous Waste Management Act (Idaho Code § 39-4401 et seq.).

To better manage cleanup activities, the INEEL was divided into 10 WAGs. Test Area North, designated as WAG 1, includes fenced areas and areas immediately outside the fence lines at the Technical Support Facility (TSF), the Initial Engine Test Facility, the Loss-of-Fluid Test (LOFT) Facility, the Specific Manufacturing Capability Facility, and the Water Reactor Research Test Facility (DOE-ID 1999).

As shown in Figure 2-1, TAN is located in the north-central portion of the INEEL. The facility was constructed between 1954 and 1961 to support the Aircraft Nuclear Propulsion Program, which developed and tested designs for nuclear-powered aircraft engines. When Congress terminated this research in 1961, the area's facilities were converted to support a variety of other DOE research projects. From 1962 through the 1970s, the area was principally devoted to the LOFT Facility, where reactor safety testing and behavior studies were conducted. Beginning in 1980, the area was used to conduct research and development with material from the 1979 Three Mile Island reactor accident (DOE-ID 1998). During the mid-1980s, the TAN Hot Shop supported the final tests for the LOFT Program. Current activities include the manufacture of armor for military vehicles at the Specific Manufacturing Capability Facility, and nuclear storage operations at TSF. Deactivation, decontamination, and decommissioning (D&D&D) has recently been completed at the Initial Engine Test Facility.

The FFA/CO also established 10 OUs within WAG 1 consisting of 94 potential release sites (DOE-ID 1999). The sites include various types of pits, spills, ponds, aboveground and underground storage tanks (USTs), and a railroad turntable. A comprehensive remedial investigation/feasibility study (RI/FS) was initiated in 1995 to determine the nature and extent of the contamination at TAN under OU 1-10, defined in the FFA/CO as the *WAG 1 Comprehensive Remedial Investigation/Feasibility Study* (DOE-ID 1997). The OU 1-10 RI/FS culminated with finalization of the OU 1-10 ROD (DOE-ID 1999), which provides information to support remedial actions for eight sites where contaminants present an unacceptable risk to human health and the environment. This WMP addresses field activities at two of the Group 1 remedial design/remedial action (RD/RA) sites and one Group 3 site:

- Soil contamination area south of the turntable (TSF-06 Area B)
- Soil contamination at the PM-2A Tank site (TSF-26)
- PM-2A Tanks contents sampling.

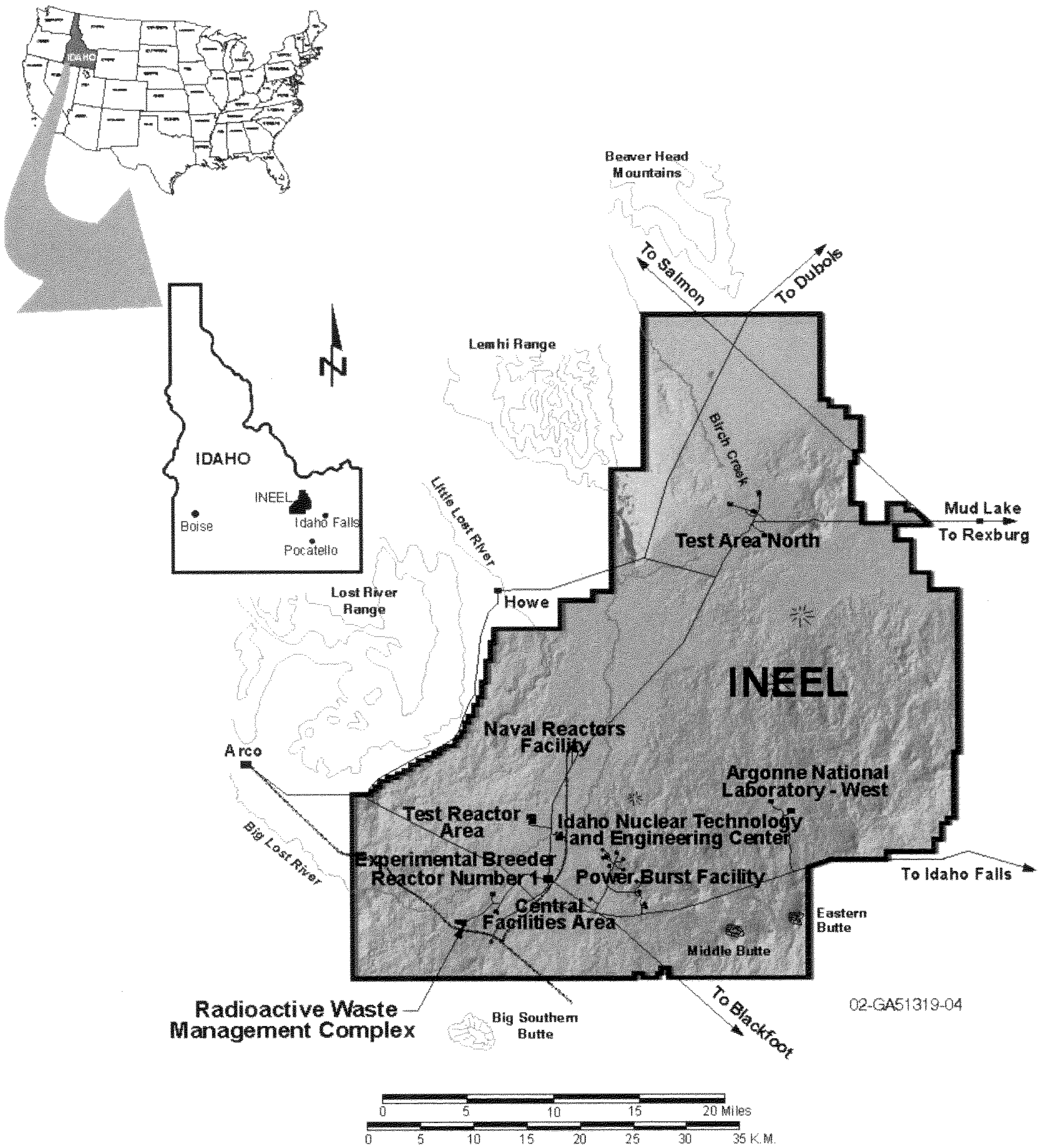

Figure 2-1. Map of the Idaho National Engineering and Environmental Laboratory showing the location of Test Area North and other major Site facilities.

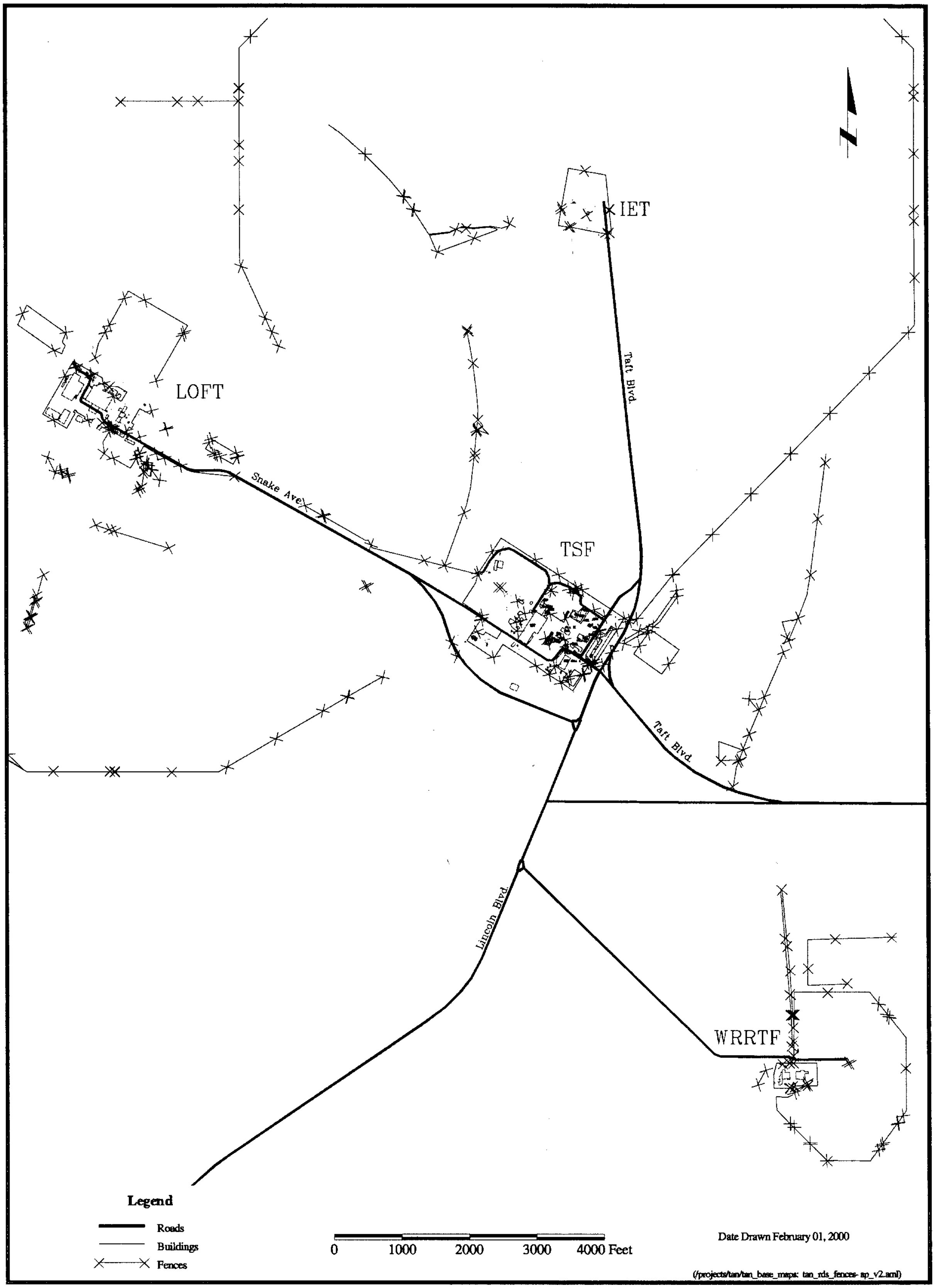

Figure 2-2. Diagram of Waste Area Group 1, Test Area North Facilities.

The remaining sites are either covered by another decision document, were documented as "No Action" or "No Further Action" sites in the OU 1-10 ROD, or will be further evaluated by another WAG at the INEEL.

2.1.1 Soil Contamination Area South of the Turntable (TSF-06 Area B)

The TSF-06 Area B site is an open soil area bounded by the TSF fence on the west and facility roads and several adjacent structures on the east and south, as shown in Figure 2-3. This area measures approximately 205.8 m (675 ft) long on the south by 129.6 m (425 ft) wide on the west.

Surface soil at TSF-06 Area B were radioactively contaminated by windblown deposition of radioactive particles from contaminated soil at the PM-2A Tanks site (TSF-26), located just south of TSF-06 Area B. Sampling and analysis data from the 1997 RI/FS (DOE-ID 1997) reported that the primary contaminants detected in the PM-2A Tanks included inorganics (antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, and silver), semivolatile organic compounds (SVOCs) (bis[2-ethylhexyl]phthalate), polychlorinated biphenyls (PCBs), and radionuclides (Cs-137, Co-60, Eu-154, Sr-90, U-233/234, U-235, U-236, U-238, Pu-239/240, and Ni-63). Volatile organic compounds (VOCs) were not detected, although the detection levels were relatively high. However, based on the contaminant screening process for OU 1-05, TSF PM-2A Tanks, the only site contaminants of potential concern were Co-60 and Cs-137 (DOE-ID 1997).

Anecdotal information and photographs of the TSF-06 Area B site collected during more active TAN operational periods show a ditch parallel to Snake Avenue that runs through the TSF-06 Area B site. It was reported that the ditch periodically carried effluent from decontamination activities in the TAN-607 building and had the potential to contain radionuclides (Cs-137, Co-60, Eu-154, Sr-90), VOCs, SVOCs, PCBs, and metals.

Sampling results following a 1995 OU 10-06 removal action revealed that radioactive contamination remains in a 152 × 30.5-m (500 × 100-ft) area, including the asphalt-paved Snake Avenue and roadbed. This area is referred to as the "remaining contamination at TSF-06 Area B" in Figure 2-3.

Residential screening results in the RI/FS indicate that Cs-137 is the contaminant of concern for TSF-06 Area B. In addition, though unlikely, the possibility exists that other nonradionuclide contaminants associated with the PM-2A Tanks may have migrated to the TSF-06 Area B site by way of windblown contamination.

2.1.2 PM-2A Tank Contents and Soil Contamination Sites (TSF-26)

The PM-2A Tank site (TSF-26) is a Group 1 site that consists of the contaminated soil area surrounding two abandoned USTs, designated as V-13 and V-14, but also known as TSF-709/710 or TSF-710A&B. The tanks are each 50,000-gal capacity carbon steel tanks approximately 17 m (55 ft) long and 3.8 m (12.5 ft) in diameter. The tanks and contents of the tanks are included as a Group 3 site.

Installed in the mid-1950s, the tanks stored concentrated low-level radioactive waste from the TAN-616 Evaporator from 1955 to 1972 (DOE-ID 1997). In 1972, a new evaporator system (called the PM-2A System) was installed in the TSF-26 area to replace the existing TAN-616 Evaporator System, which was failing. The PM-2A Tanks served as feed tanks for the new evaporator system, in which liquid waste was evaporated, condensed, passed through an ion-exchange column, and discharged as clean water into the TSF-07 Disposal Pond. Because of operational difficulties and spillage, the system was shut down in 1975 (DOE-ID 1997).

The tops of the tanks are approximately 5 m (15 ft) below ground surface (bgs). The tanks rest on a sand base inside concrete troughs. In 1982, D&D&D of the PM-2A System was conducted. Most of the

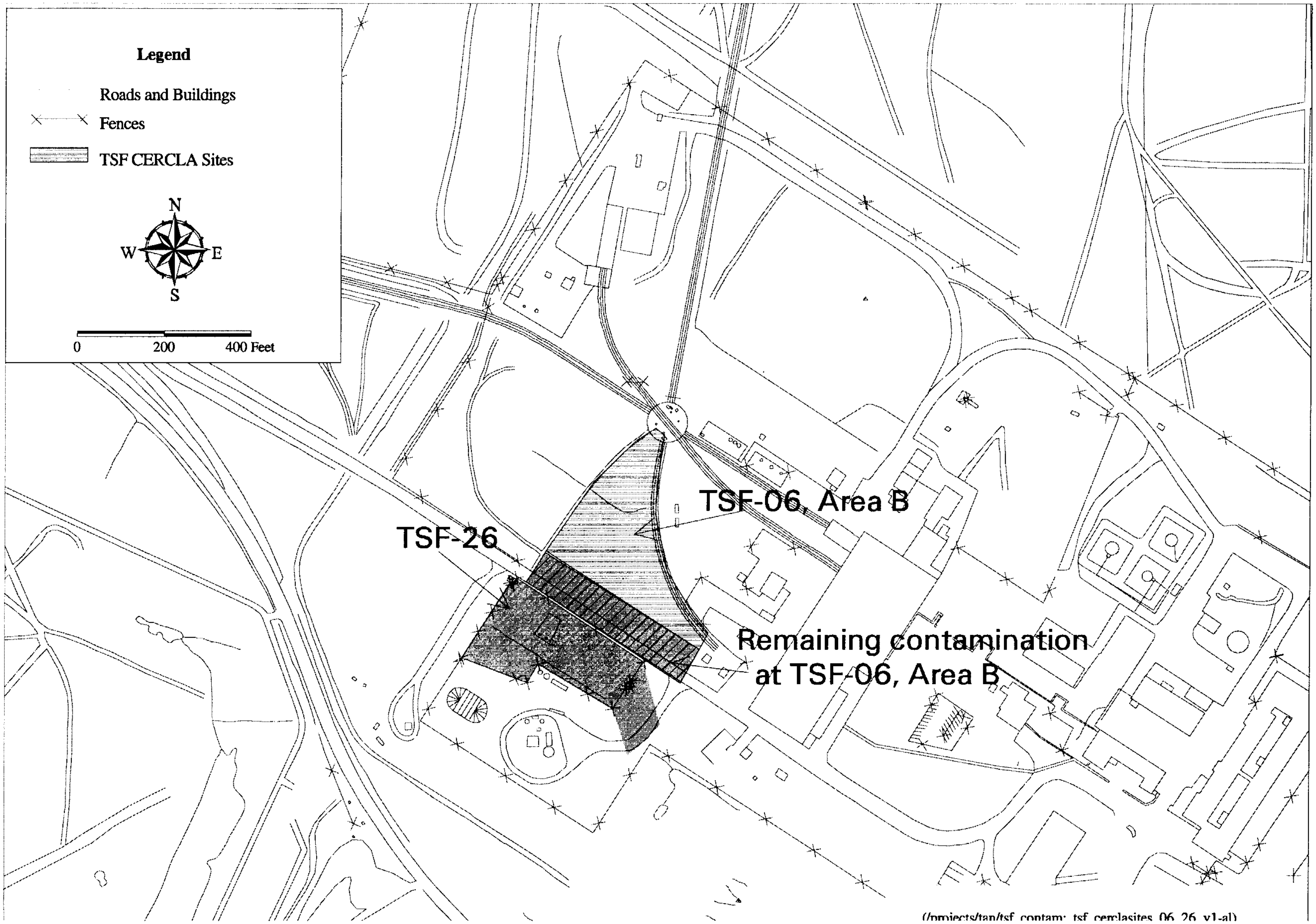

Figure 2-3. Soil contamination area south of the turntable (TSF-06 Area B) and PM-2A Tank site (TSF-26).

liquid in the PM-2A Tanks was pumped out into concrete containers, mixed with cement, and shipped to the Radioactive Waste Management Complex (RWMC) for burial, leaving heels of wet, mixed-waste sludge. Approximately 10,000 lb of diatomaceous earth then was deposited into each tank to absorb the remaining liquid, forming a layer of diatomaceous earth over the sludge (DOE-ID 1997). The waste remaining in the tanks is RCRA F001-listed hazardous waste and contains radionuclides, PCBs, and inorganic substances including heavy metals. Samples of the tank contents were obtained in 1996. However, because of the high detection limits and the number of samples obtained, the tank contents are being resampled to obtain representative and adequate analytical data to characterize, transport, and dispose of the tank contents.

During operations, the soil above the PM-2A Tanks was contaminated by spills containing radionuclides and hazardous constituents when waste was transferred from the tanks. The primary contaminants detected in the PM-2A Tanks are detailed in Section 2.1.1. The PM-2A System also includes a 30.5-m (1,100-ft) run of two parallel 10-cm (4-in.) outside-diameter pipes that originated at TAN-616 and ultimately fed the two PM-2A Tanks. These feed lines, containing several elbows, were routed through the TSF-06 Area B, under Snake Avenue into the PM-2A Tank area. During the 1982 D&D&D of the PM-2A Tanks, the piping was deactivated and characterized; however, the piping was left in place (EG&G 1983).

Numerous field screening, soil characterization, and remediation activities were conducted in the TSF-26 area since the 1982 D&D&D effort (see Section 2.2 for more detail). Residential screening results indicate that the contaminant of concern for TSF-26 is Cs-137. In addition, the possibility exists that other nonradionuclide contaminants associated with the PM-2A Tanks may be present in the soil.

In addition to the confirmation sampling planned for the soil on the surface of the TSF-26 site and around the tanks, the sand fill material inside the troughs where the tanks rest, and the soil beneath the troughs under the tanks, will also be sampled to verify that final remediation goals (FRGs) are met.

2.2 Previous Investigations

The following sections describe in more detail the previous investigations that have been conducted at the TSF-06 Area B and TSF-26 Sites.

2.2.1 Soil Contamination Area South of the Turntable (TSF-06 Area B)

Historical data and the results of the radionuclide analysis of composite surface soil samples were used in the evaluation of the soil contamination area south of the turntable (TSF-06 Area B) during the 1993 OU 1-05 Track 2 investigation. Investigations and interviews with personnel familiar with the history of site operations at TAN revealed that plastic sheeting had previously been installed over the native soil in TSF-06 Area B, followed by 0.3 m (1 ft) to 0.6 m (2 ft) of clean fill material (overburden). This material was installed by TAN Radiological Control personnel to shield the contaminated soil. It was determined later that the contamination in this overburden originated from windblown contamination from the PM-2A stockpiles (INEEL 2002).

The evaluation indicated elevated Cs-137 levels in the soil. On the basis of the Track 2 risk evaluation, a noontime-critical removal action under OU 10-06 was performed in 1995, resulting in a total of 2,092 m^3 (2,737 yd^3) of soil being removed from the 180 × 90-m (600 × 300-ft) area. The average soil removal depth was 19 cm (7.5 in.), with a maximum of 45.7 cm (18 in.) of soil removed in the deepest excavation. Following the OU 10-06 removal action verification, soil samples were collected from the surface within the excavated area and analyzed for gamma-emitting radionuclides. The activities of Cs-137 in the 27 samples were all below the preliminary remediation goal of 16.7 pCi/g used for the OU

10-06 removal action (DOE-ID 1997). However, radiological survey sampling results identified Cs-137 contamination within TSF-06 Area B with gamma radiation readings greater than 15 pCi/g (RI/FS radiological field screening action level) that had not been removed during the OU 10-06 removal action. The radiological field screening action level of 15 pCi/g was to provide a measure that the preliminary remediation goal (PRG) was met because field-screening instrumentation was used. The Cs-137 concentrations in this area ranged from 48.3 pCi/g to 150 pCi/g.

During calendar year (CY) 2000, several additional field screening and sampling and analysis events were performed as part of post-ROD sampling to further understand the nature and extent of the windblown contamination originating from the TSF-26 PM-2A Tank site and to obtain analytical data to support remediation (INEEL 2002). Following an April 2000 sampling event, remediation of the TSF-06 Area B site was performed in July 2000 to remove the top 15 cm (6 in.) of overburden from the site. The contaminated soil was bladed with a road grader then loaded into soft-sided soil bags with a front-end loader. The soil bags were temporarily stored in a CERCLA storage area before disposal.

In August 2000, remaining soil piles were windrowed, field screened, and sampled to determine whether the soil was above the FRG of 23.3 pCi/g for Cs-137. In situ measurements were performed using the DART/M1 gamma spectrometry system. Grab samples were collected with a spoon sampler at each measurement point on the windrows at surface and 15 cm (6 in.) bgs (INEEL 2002). Measurement points were located about 9 m (30 ft) apart. These samples were then counted by conventional gamma spectrometry at the Idaho Nuclear Technology and Engineering Center laboratory.

The northern windrow showed Cs-137 concentrations consistently above 23.3 pCi/g at both 0 and 15 cm (0 and 6 in.) bgs. This indicated evidence of homogeneous contamination throughout the length and depth of the pile. The center windrow showed a small section of soil below 23.3 pCi/g, while the remainder of soil measured above 23.3 pCi/g for Cs-137. The third windrow was grab-sampled only; one sample exhibited levels above the 23.3 pCi/g level.

When the sample analyses were received, the last soil bags were filled with the windrowed soil and transported to the Radioactive Parts Security Storage Area (RPSSA) for interim storage. Following receipt of a no-longer-contained-in (NLCI) determination from Idaho Department of Environmental Quality, all 75 soil bags filled at TSF-06 Area B (with an estimated total excavated volume of 555 yd^3) were shipped to the RWMC for disposal by December 2000.

Following excavation of the windrows, TSF-06 Area B was gridded, field screened, and sampled. With the use of the DART/M1 gamma spectrometry system, in situ measurements were again performed, both to scope the potential Cs-137 levels at the site and to ascertain the lateral and vertical extent of contamination. Segmented core sampling was conducted at 64 sampling points to develop the depth profile for the Cs-137 contamination. Detailed results of the field screening and analysis can be found in the TSF-06 and TSF-26 Calendar Year 2000 Summary Report (INEEL 2002). The highest DART measurements occurred along the east side of the gridded area. In addition, because of the large field of view of the detector, contribution to the DART activity measurements from the adjacent PM-2A (TSF-26) area was highly likely.

Core samples were collected with a hand auger from the surface level of the overburden to 46 cm (18 in.) bgs at 15-cm (6-in.) intervals along four parallel rows. The samples were then analyzed for Cs-137 concentrations by conventional gamma spectrometry at the Nuclear Technology and Engineering Center laboratory. Data results indicated that contamination concentrations were highest in the two southern rows closest to the Snake Avenue roadside. As shown in Table 2-1, 10 of the 64 samples collected from the surface level of the overburden exceeded the 23.3 pCi/g FRG for Cs-137 (25.4, 26.6, 36.1, 42.9, 64.7, 105, 107, 191, 537, and 538 pCi/g), and five samples collected from the 15-cm (6-in.)

bgs interval exceeded the 23.3 pCi/g FRG for Cs-137 (35.6, 62.7, 63.1, 180, and 1139 pCi/g). No Cs-137 was detected at either the 30 to 46-cm (12 or 18-in.) intervals above the 23.3 pCi/g FRG.

Table 2-1. Selected results of final Calendar Year 2000 sampling of TSF-06 Area B.

		Cs-137 Results (pCi/g)	
Location	Sample Location Number	Below Ground Surface (0 in.)	Below Ground Surface (6 in.) [a]
Row 1	29	25.4	—
Row 3	62	26.6	—
Row 3	55	36.1	—
Row 3	50	—	180
Row 3	47	64.7	—
Row 3	39	42.9	—
Row 3	31	107	1139
Row 3	26	191	—
Row 3	18	105	62.7
Row 3	15	537	—
Row 3	10	538	63.1
Row 4	7	—	35.6

a. — indicates that the sample result did not exceed the 23.3 pCi/g final remediation goal.

2.2.2 PM-2A Tanks (TSF-26)

During the 1982 D&D&D of the PM-2A Tanks, the piping was deactivated and characterized, leaving the piping in place. Deactivation consisted of removing a section of each pipe adjacent to the TAN-616 facility and capping each pipe to prevent liquid leaving or entering TAN-616. In addition, the pipes were cut and capped near the PM-2A area to prevent liquid entering the tanks in the event there is an unidentified line joining either PM-2A feed line (EG&G 1983). No characterization was conducted at the PM-2A Tank location when the pipes were cut and capped.

There was no mention of the lines being flushed or drained of any residual waste liquids. When the pipes were cut and capped at TAN-616, a section of each pipe was retained and analyzed (designated north pipe and south pipe to differentiate characterization results). The inside pipe surface was found to be smooth and no debris was available for a determination of isotopic concentration. The radiation field inside each pipe was measured and gamma-emitting isotopes were identified. The north pipe section characterization results indicated beta-gamma field (mR/hour) at 100; gamma activity percentage was 72.6 for Cs-137 and 27.4 for Co-60. The south pipe section indicated beta-gamma field (mR/hour) at 60; gamma activity percentage was 91.6 for Cs-137, 7.8 for Co-60, and 0.6 for Eu-154.

The most contaminated surface soil within the PM-2A boundaries (northeast corner) was removed, boxed into a total of 104 $2 \times 4 \times 8$-ft boxes, and transported to the RWMC for burial. Unexpected contaminated sludge was discovered during the earth moving. The sludge, buried about 1 m (3 ft) deep in one location, was excavated, placed into three boxes, and shipped to RWMC for burial with the other contaminated soil boxes.

Following removal of the soil and sludge in 1982, the PM-2A area was graded and the surface was radiologically surveyed. When the survey showed elevated radiological activity, the entire PM-2A area was backfilled with clean soil. Approximately 20,000 ft^3 of gravelly soil, then 10,000 ft^3 of topsoil, were hauled in, smoothed, and graded. The PM-2A area was fenced with a 1.8-m (6-ft) high chain link fence, and a 6-m (20-ft) wide gate was installed along the east end of the area. Four concrete and brass markers were placed to designate the four corners of the concrete cradle in which the underground tanks reside. Manways to the underground tanks were covered to prevent the entrance of snow. Currently, a drainage ditch vegetated by sagebrush and planted with crested wheat grass traverses the area in an east-west direction south of the PM-2A Tanks.

The soil surrounding the PM-2A Tanks were evaluated in 1988 during a DOE environmental survey. Four borings were drilled near the PM-2A Tanks; radiological analyses were performed, which showed levels of Cs-137 contamination (1.7 to 120 pCi/g) in the soil to at least 5.2 m (17 ft) bgs (DOE-ID 1997).

In 1993, a Track 2 investigation was performed at the TSF-26 site (INEEL 1994). Information regarding the Track 2 investigation can be found in the Track 2 summary report (INEEL 1994), but is also summarized in the RI/FS (DOE-ID 1997). The Track 2 investigation included a high-resolution magnetic field survey to determine the location of buried metallic objects, including the USTs and the sandpoints. The sandpoints are small diameter, steel-cased monitoring points that extend into the bedding material for the USTs within the concrete cradle. Once found, the sandpoints were sampled and the samples were analyzed as part of the Track 2 investigation.

In addition, one deep and three shallow borings were completed and sampled, and grab samples from the surface were collected. Radiological analyses performed on the surface samples indicated elevated gross beta and gamma activities. Organic analyses for SVOCs, VOCs, and PCBs were conducted on the samples from the three shallow borings. No VOCs, SVOCs, or PCBs were detected in any of the soil samples from the Track 2 investigation (DOE-ID 1997).

Based on the results of the Track 2 investigation, a noontime-critical removal action was performed at TSF-26 in 1995, during which contaminated soil above a 15 pCi/g field screening action level was removed. Three soil stockpiles with gamma radiation readings greater than allowed by the project work control documentation were left at the TSF-26 site. A composite sample, composed of cuttings from the surface to 9 m (30 ft) bgs, was collected and analyzed for gross beta activity, gross alpha activity, gamma activities, six Contract Laboratory Program (CLP) metals, CLP VOCs, CLP SVOCs, and PCBs. Results indicated an area 30.5 × 21.3 m (100 × 70 ft) to 5.2 m (17 ft) bgs was contaminated with Cs-137 at levels that posed an unacceptable risk to human health and the environment (DOE-ID 1999). No VOCs, SVOCs, or PCBs were detected in any of the soil samples.

During the same removal action, what appeared to be the top of a wooden box was discovered at the PM-2A Tank site. However, the box was not opened or investigated at that time. Also encountered were scattered debris concentrated along the northern perimeter fence. The debris included concrete, a galvanized steel culvert, railroad ties, wooden pallets, plywood, steel conduit, and an old electric motor, which were all left in place.

In 1998, six sampling locations were selected to characterize the soil at the PM-2A Tank site. At each location, samples were collected with a split spoon sampler from three depth intervals: 0 to 0.8 m (0 to 2.5 ft), 1.5 to 2.3 m (5 to 7.5 ft), and 2.3 to 3 m (7.5 to 10 ft). These samples were then analyzed for CLP VOCs, toxicity characteristic leaching procedure VOCs, PCBs, and toxicity characteristic leaching procedure metals. No VOCs, PCBs, or metals were detected above background concentrations in the 1998 PM-2A Tank soil samples.

In March 2000, the three soil stockpiles and the wooden box were sampled to obtain additional data to support remediation, obtain a NLCI determination for the soil, and provide necessary concentration data to proceed with the Group 1 remedial action. The samples of the soil stockpiles and wooden box were collected in accordance with the post-ROD field sampling plan (DOE-ID 2000). Samples were analyzed for VOCs, SVOCs, PCBs, total metals, toxicity characteristic leaching procedure metals, and radionuclides. Gross alpha and beta results were also obtained to provide information for the planned future disposal of these soil. Data results revealed nondetects for SVOCs and PCBs; some VOCs were detected at insignificant levels. Radionuclide results showed Cs-137 concentrations up to 3,600 pCi/g in the soil stockpiles, which were similar to the 4,400 pCi/g maximum sample result obtained during the OU 10-06 removal action, as documented in the RI/FS. Radionuclide sample results for the wooden box were significantly higher than the results for the soil stockpiles. The maximum Cs-137 concentration was 710,000 pCi/g from one sample location, suggesting that the wooden box served as some type of containment for soil with elevated concentration levels.

Following sampling and analyses, fieldwork began to containerize the soil stockpiles and wooden box material into soft-sided bags. The wooden box was excavated with a backhoe; the soil was placed into separate soil bags. An estimated total excavated volume of 144 yd^3 from the TSF-26 soil stockpiles and wooden box filled a total of 22 soil bags. These were stacked in the southwest portion of the TSF-26 site and later transported to the Radioactive Parts Security Storage Area (RPSSA) for interim storage. Following completion of follow-up sampling and remediation activities (winterization and decontamination of equipment), and receipt of a NLCI determination from the Idaho Department of Environmental Quality, the containerized soil was transported to the RWMC for disposal by December 2000.

In August 2000, the latest radiological sampling event for TSF-26 was performed to obtain data results regarding the vertical nature and extent of contamination. Grab samples were collected at 15, 30, and 46-cm (6, 12, and 18-in.) intervals throughout the TSF-26 site at 18 sample points spaced approximately 15 m (50 ft) apart. As shown in Table 2-2, of the 18 sample points, five samples exceeded the 23.3 pCi/g FRG for Cs-137 at surface level (0 in.) (40.3, 41.7, 66.7, 104, and 184 pCi/g), and one sample exceeded the 23.3 pCi/g FRG for Cs-137 in the 0 to 15-cm (0 to 6-in.) interval (32.2 pCi/g). No Cs-137 was detected above the 23.3 pCi/g FRG at either 30 to 46-cm (12 or 18-in.) intervals.

Table 2-2. Selected results of August 2000 sampling of PM-2A Tank Site (TSF-26).

	Cs-137 Results (pCi/g)	
Sample Identification Number	Below Ground Surface (0 in.)	Below Ground Surface (6 in.)[a]
8	41.7	—
6	40.3	—
34	184	32.2
39	104	—
41	66.7	—

a. — indicates that the sample result did not exceed the 23.3 pCi/g final remediation goal.

Little information is available about the history and purpose of the ditch located inTSF-26. The Track 2 report refers to it as a 6 × 12-m (20 × 40-ft) open trench located east of the tank basin area. A radiation survey was conducted in 1993 along the bottom of the ditch; radiation measurements were collected every 3 m (10 ft) (total distance of 12 m [40 ft]). Background radiation in the vicinity of the ditch ranged from 120 to 160 counts per minute (cpm); radioactive contamination detected within the ditch ranged from 8 to 840 cpm. Two areas of concern were the west end of the ditch just southwest of the TSF-26 tank basin, and the east end of the ditch. The west end had historically received surface water flow from a north-south trending ditch (observed in historical photographs). The Track 2 report stated that the observed levels of radiation in the east end of the ditch might have been the result of residual contamination from D&D&D activities in the 1980s. Mobile radiation surveys indicated variable readings from 0.56 to 0.05 mR/hour along the length of the ditch. Subsequent shallow subsurface boring, field screening, and sampling were conducted in the west end of the ditch. In summary, the field screening data detected no alpha radiation, no VOCs above action limits, no mercury, and no beta/gamma activity greater than 100 cpm above background. Sample results collected from 0 to 1.5 m (0 to 5 ft) bgs did not indicate that VOCs, SVOCs, PCBs, or radionuclides were present in the subsurface at a risk greater than 10^{-6} for any pathways. No staining was observed within the soil and all subsurface sample material was returned to the borehole.

2.2.3 PM-2A Tank Contents

In April and September of 1996, attempts were made to sample Tank V-13 and Tank V-14 to support the RI/FS. Tank V-13 was sampled during both efforts. Samples were collected from Tank V-14 in April, but were not analyzed because the samples were not representative of the sludge and liquid left in the tank. Attempts to sample Tank V-14 in September were aborted due to the inability of the sampler to move within the tank.

The April 1996 sampling effort for Tank V-13 reported analyses for radionuclides and metals from five aliquots of two samples. The September 1996 sampling effort for Tank V-13 reported analyses for radionuclides, total VOCs, PCBs, total metals, total SVOCs, and miscellaneous analytes (anions, total carbon, total halides, pH, and density) from two aliquots from four samples. Analytical results indicate that the types of contaminants present in Tank V-13 are similar to those in the TSF-09 V-Tanks, although the Tank V-13 concentrations were generally lower than the TSF-09 Tanks.

The 1996 VOC, SVOC, and PCB analyses detected only three organic compounds in Tank V-13, bis(2-ethylhexly)phthalate, Aroclor-1254, and Aroclor-1260. The remaining organic compounds on the target compound lists received the U data (not detected) qualifier at very high detection levels. The detection limits for the VOC analyses were at 210 and 220 mg/kg, and the bis(2-ethylhexyl)phthalate, detected at 75 mg/kg, with a J (estimated) data qualifier. Detection limits for PCBs varied from 1.4 to 3.9 mg/kg. Aroclor-1254 was detected at 13 mg/kg and Aroclor-1260 at 11 mg/kg. Metals and radiological sampling data within the 1996 sampling effort indicated reasonable agreement among results for the different samples.

Table A-1 in Appendix A of Data Quality Objectives Summary Report for the PM-2A Tanks (TSF-26) (INEEL, 2000) contains the 1996 sample data.

3. WASTE MANAGEMENT

A waste stream summary (see Table 3-1) details the types of waste anticipated from the August 2000 Comprehensive RD/RA Work Plan (DOE-ID 2003a) remedial actions and the disposal strategies currently planned for the waste. This table also addresses the waste anticipated from the sampling of the PM-2A contents, which are a Group 3 site.

3.1 Waste Minimization

Waste minimization for this project will be accomplished through design and planning to ensure efficient operations that will not generate unnecessary waste. As part of the pre-job briefing, emphasis will be placed on waste reduction philosophies and techniques, and personnel will be encouraged to continuously attempt to suggest or improve methods for minimizing waste generation. Contact with contaminated materials will be minimized. A graded approach will be used to decontaminate soil sampling equipment in order to minimize decontamination waste. The equipment will first be brushed clean. If this is not sufficient, the equipment will then be wiped clean with rags. If brushing or wiping of the sampling equipment does not perform adequate decontamination, the equipment will be steam cleaned.

3.2 Waste Characterization Strategy

Implementation of the Comprehensive RD/RA Work Plan will generate CERCLA remediation waste. The waste has been and will be characterized to support a hazardous waste determination (HWD) that will provide information for subsequent management. Waste streams will be identified and characterized, and the land disposal restriction status will be determined, ensuring that all applicable or relevant and appropriate requirements are met before the waste is shipped for treatment, storage, and disposal. Waste profiles will be prepared for all waste streams using analytical information and/or process knowledge.

Waste will be managed in accordance with this WMP and the *Final ROD for TAN* (DOE-ID 1999). The waste will be characterized by using approved sampling and analytical information, or by the use of process knowledge. Waste characterization based solely on process knowledge must ensure that the chemical, physical, and radiological properties of the waste are adequately determined. The designation must be accomplished with sufficient accuracy to ensure that subsequent treatment, storage, or disposal of the waste is protective of human health and the environment.

All CERCLA remediation waste meeting the definition of debris defined in RCRA "Land Disposal Restrictions" (40 CFR 268.2) will be characterized by applying knowledge of the waste constituents expected to be contaminating the debris. For debris contaminated with material from the contents of the PM-2A Tanks, the 90% upper confidence limit of the average radiological and chemical analytical data associated with the contents of the PM-2A Tanks, is the value to which the contamination factor, determined by engineering design file (EDF) -3570, "Waste Characterization Strategy for Contaminated

Table 3-1. Waste stream summary.

Remedial Action Activity	Waste Description	Location	Expected Type[a] and Applicable Waste Codes[b]	Estimated Volume	Planned U.S. Department of Transportation Class Packaging	Storage Location	Treatment and Planned Disposal
Remove TSF-06 overburden soil	Soil	TSF-06	LLW with no-longer-contained-in determination	926 yd^3	Class 7 LSA Soil bags in roll-off containers	CERCLA WSA	Treatment not expected to be necessary ICDF[a]
Remove TSF-06 overburden soil	Debris such as PPE, rags, removal equipment	TSF-06	LLW	96 ft^3	Class 7 LSA Metal drums or box or wooden waste box	CERCLA WSA	Treatment not expected to be necessary ICDF[a]
Sample TSF-06 native, asphalt, and road base and decontamination of sampling equipment.	Debris such as PPE, rags, sampling equipment	TSF-06	Unknown material pending sample analysis	66 ft^3	Class 7 LSA Metal drums or box or wooden waste box	CERCLA WSA	Treatment not expected to be necessary ICDF[a]
Remove TSF-06 native soil	Soil	TSF-06	Unknown material pending sample analysis	2,778 yd^3	Class 7 LSA Soil bags in roll-off containers	CERCLA WSA	Treatment not expected to be necessary ICDF[a]
Remove TSF-06 asphalt	Asphalt	TSF-06	Unknown material pending sample analysis	231 yd^3	Class 7 LSA Soil bags in roll-off containers	CERCLA WSA	Treatment not expected to be necessary ICDF[a]
Remove TSF-06 roadbed	Soil	TSF-06	Unknown material pending sample analysis	926 yd^3	Class 7 LSA Soil bags in roll-off containers	CERCLA WSA	Treatment not expected to be necessary ICDF[a]

Table 3-1. (continued).

Remedial Action Activity	Waste Description	Location	Expected Type[a] and Applicable Waste Codes[b]	Estimated Volume	Planned U.S. Department of Transportation Class Packaging	Storage Location	Treatment and Planned Disposal
Remove TSF-06 native soil, asphalt, and roadbed	Debris such as PPE, rags, removal equipment	TSF-06	Unknown material pending sample analysis	96 ft^3	Class 7 LSA Metal drums or box or wooden waste box	CERCLA WSA	Treatment not expected to be necessary ICDF[a]
Sample TSF-26 soil and decontamination of sampling equipment.	Debris such as PPE, rags, sampling equipment, and any other debris that has come in contact with the TSF-26 soil	TSF-26	MLLW F001	96 ft^3	Class 7 LSA Metal drums or box or wooden waste box	CERCLA WSA	Treatment not expected to be necessary ICDF[a]
Remove TSF-26 soil	Soil	TSF-26	MLLW F001	7,778 yd^3	Class 7 LSA Soil bags in roll-off containers	CERCLA WSA	Treatment not expected to be necessary ICDF[a]
Remove debris from TSF-26 area	Metal culvert, railroad ties, concrete with conduit, wire	TSF-26	MLLW F001	250 ft^3	Class 7 LSA Metal drums or box or wooden waste box	CERCLA WSA	Treatment not expected to be necessary ICDF[a]
Sample PM-2A Tanks and decontamination of sampling equipment.	Debris such as PPE, rags, sampling equipment	TSF-26	MLLW F001	200 ft^3	Class 7 LSA Metal drums or box or wooden waste box	CERCLA WSA	Treatment not expected to be necessary ICDF[a]
Soil Sampling	Decontamination water	TSF-06/26	MLLW F001	300 gal	Class 7 LSA Metal drums	CERCLA WSA	Sample water in accordance with an approved sampling plan. Absorb or solidify free liquid after receipt and evaluation of sample results ICDF[a]

Table 3-1. (continued).

Remedial Action Activity	Waste Description	Location	Expected Type[a] and Applicable Waste Codes[b]	Estimated Volume	Planned U.S. Department of Transportation Class Packaging	Storage Location	Treatment and Planned Disposal
All TSF-06/26 and PM-2A Tank contents sampling	Altered and unaltered samples and sample residues	TSF-06/26	NA	NA	NA	NA	Will be treated, if necessary, and disposed by Analytical Laboratory personnel
All remedial activities	Waste defined as IW	TSF-06/26	IW	NA	NA	NA	INEEL Landfill Complex
All remedial activities	Waste defined as LLW and selected for disposal at RWMC	TSF-06/26	LLW	NA	Class 7 Metal drums or boxes or wooden boxes	Radioactive material area	RWMC

a. Types: MLLW, IW, LLW, TSCA.
b. ICDF is the planned facility for disposal. However, if the waste cannot meet the WAC, it may be disposed of at another facility (e.g., RWMC or Envirocare of Utah).

Note: All waste is anticipated to be Class A waste in accordance with 10 CFR 61.55, "Waste Classification."

CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
DOT = U.S. Department of Transportation
ICDF = INEEL CERCLA Disposal Facility
INEEL = Idaho National Engineering and Environmental Laboratory
IW = industrial waste
LLW = low-level waste
LSA = low specific activity
MLLW = mixed low-level waste
NA = not applicable
PPE = personal protective equipment
RWMC = Radioactive Waste Management Complex
TSCA = Toxic Substances Control Act
TSF = Technical Support Facility
WAC = waste acceptance criteria
WSA = waste storage area

Debris (Draft)"[a] will be applied to determine the fraction of contamination on debris. For debris contaminated during TSF-26 soil sampling actions, the 90% upper confidence limit for average radiological and chemical analytical data associated with TSF-26 soil, which came in contact with the debris, is the value to which the contamination factor, determined by EDF-3570, will be applied to determine the fraction of contamination on debris. Application of the debris-contamination factor will be in accordance with EDF-3570. Debris generated from the removal of the TSF-06 overburden soil will be managed as low-level waste (LLW) if it has radiological contamination, or as industrial waste if it does not have radiological contamination. This debris will not be managed as RCRA listed waste due to the no-longer-contained-in determination for the TSF-06 overburden soil. Debris generated during the sampling of the TSF-06 native soil and the Snake Avenue roadbed will be managed as material pending sample analysis until the soil sample results have been received and reviewed. This debris will then be characterized in accordance with EDF-3570.

3.3 Idaho National Engineering and Environmental Laboratory Management and Disposition

Waste generated at the INEEL as a result of CERCLA remedial activities includes hazardous, mixed low-level waste (MLLW), LLW, and industrial waste (IW). These types of waste may contain contaminants such as PCBs or asbestos that could be regulated by the Toxic Substances Control Act (TSCA) (15 USC § 2601 et seq.) and the "National Emissions Standards for Hazardous Air Pollutants (NESHAPs)" (40 CFR 61). These types of waste may be disposable at the INEEL if they meet specific facility waste acceptance criteria (WAC). Most CERCLA-generated waste will typically be sent to ICDF for disposal. However, CERCLA-generated IW is typically disposed of at the INEEL Landfill Complex. Using RWMC is an option for disposal of suitable CERCLA generated LLW.

3.3.1 Waste Planned for Disposition at the Idaho Comprehensive Environmental Response, Compensation, and Liability Act Disposal Facility

Most waste described in this plan is planned for disposal at ICDF. This waste will be required to meet the ICDF WAC. Both Hazardous and MLLW also will have to meet applicable RCRA land disposal restrictions.

3.3.2 Waste Transported to Non-Idaho National Engineering and Environmental Laboratory Facilities

Some waste generated during CERCLA remedial activities may be sent to a treatment, storage, or disposal facility outside of the INEEL boundaries. CERCLA hazardous or mixed waste that is sent outside of the INEEL boundaries for treatment, storage, or disposal may only be sent to a permitted or interim status treatment, storage, or disposal facility which has been found suitable to receive hazardous waste from CERCLA remediation sites by the treatment, storage, or disposal facility's own EPA Regional Office in accordance with "Procedures for Planning and Implementing Offsite Response Action" (40 CFR 300.440[a][4]).

3.3.3 Waste Planned for Disposal at Non-CERCLA INEEL Facilities

Planned management and disposition of waste streams described in this WMP are based on information from the RI/FS, the OU 1-10 ROD, Comprehensive RD/RA Work Plan, and other

a. EDF-3570, 2003, "Waste Characterization Strategy for Contaminated Debris (Draft), Revision 0A, INEEL, May 2003.

available data. Estimated volumes, initial characterizations, anticipated treatments (if any), and planned dispositions were developed and reviewed in the preparation of this WMP. One of the primary objectives of this plan is to evaluate the appropriateness of management and disposal options for the anticipated waste. Appropriateness of a disposal option is based on whether that waste could reasonably be expected to cause or contribute to an environmentally significant release of hazardous substances from that facility. Environmentally significant releases would be releases to the air or groundwater of those quantities of hazardous substances that could be reasonably expected to pose a significant threat to human health and the environment. Any of the waste described in this WMP that would be reasonably expected to exceed this threshold criterion will be separately evaluated to determine suitability of the waste for disposal. This waste will not be shipped for disposal unless special provisions are made and documented to mitigate the potential for release. "Designation of Hazardous Substances" (40 CFR 302.4) contains the primary list of hazardous substances under CERCLA. As the remedial process proceeds and more information becomes available, more detailed reviews are conducted as described below to ensure that waste planned for specific disposal options meets the detailed WAC for each specific facility.

3.3.4 Management of Low-Level Waste for Disposal at the Radioactive Waste Management Complex

The RWMC includes a LLW disposal unit, operated by the DOE under the Atomic Energy Act (42 USC § 2011), as amended. Operations of the LLW disposal facility at RWMC are governed by DOE orders. The U.S. Department of Energy Headquarters has determined that the RWMC LLW disposal facility complies with DOE orders and that the facility is authorized to operate. To ensure that the LLW sent to RWMC for disposal is appropriate and suitable for disposal at RWMC, the waste is evaluated by Waste Generator Services (WGS) to ensure the waste will meet the RWMC WAC. The RWMC is not permitted by EPA or licensed by the U.S. Nuclear Regulatory Commission to dispose of RCRA hazardous or mixed waste. To ensure hazardous or mixed waste is not sent to RWMC, an HWD for each waste stream will be completed by WGS to ensure that the CERCLA LLW (1) does not exhibit the characteristics of a hazardous waste and has not come in contact with a listed hazardous waste, or (2) has been analyzed to demonstrate that it no longer contains a hazardous waste above risk-based concerns. When appropriate, the HWD may be based on process knowledge concerning the origin and history of the waste proposed for disposal. Methods to help ensure LLW is managed to protect human health and the environment include:

- Characterizing CERCLA LLW, by WGS, to ensure the requirements of the WAC are met before shipment to RWMC
- Prohibiting receipt of RCRA hazardous or mixed waste
- Prohibiting receipt of free liquids at the landfill
- Performing waste inspections of received waste to validate that the waste meets the WAC and is consistent with the waste profile
- Implementing an environmental monitoring program at the RWMC.

Environmental monitoring data has not indicated that an environmentally significant release of hazardous substances has occurred to the air or groundwater from current LLW disposal operations at the RWMC. If any future environmentally significant releases to the air or groundwater are identified, the release may be subject to potential response action, as stipulated by Section V of the FFA/CO.

3.3.5 Management of Industrial Waste for Disposal at the Idaho National Engineering and Environmental Laboratory Landfill Complex

Industrial waste is solid waste that is neither radioactive nor hazardous. Industrial waste streams at the INEEL are typically disposed of at the INEEL Landfill Complex. Many types of CERCLA IW typically are generated in the AOC as a result of material used in a remediation project that the generator believes has not become contaminated with either radioactive or hazardous materials. This lack of contamination is validated by using radiation surveys or visual inspections. A general hazardous waste determination is prepared for routinely generated IW to document that the waste is neither radioactive nor hazardous waste.

Industrial waste streams that have a higher probability of containing constituents restricted from disposal are considered nonroutine and will undergo a waste-stream-specific HWD. This is accomplished by sampling, performing radioactive surveys, using process knowledge of the IW waste generating process (e.g., determining whether the waste is mixed with a listed waste or derived from the treatment, storage, or disposal of a listed waste), and evaluating the composition of the IW waste.

Waste Generator Services evaluates CERCLA IW to determine whether the waste meets the IW acceptance criteria. Industrial waste is generally collected in IW collection dumpsters. Signs are placed on the collection dumpsters that describe acceptable and prohibited items. Other methods used at the INEEL Landfill Complex to ensure that disposal of industrial waste is protective of human health and the environment are:

- Characterizing IW by WGS to ensure the requirements of the WAC are met before shipment to the facility
- Prohibiting receipt of radioactive and hazardous waste
- Prohibiting receipt of free liquids at the landfill
- Performing periodic waste inspections of received waste to validate that waste meets WAC and waste determination criteria
- Ensuring groundwater-monitoring wells are located and sampled on a periodic basis in the vicinity of the INEEL Landfill Complex.

Environmental monitoring data have not indicated that an environmentally significant release of hazardous substances has occurred to the air or groundwater from current IW disposal operations at the INEEL Landfill Complex. The current disposal area at the INEEL Landfill Complex is a solid waste management unit. As such, if any future environmentally significant releases to the air or groundwater are identified, the release may be subject to potential response action, as stipulated by Section V of the FFA/CO.

3.3.6 Waste Packaging and Transportation

Before CERCLA waste is transported to a disposal facility, WGS and Packaging and Transportation personnel will be contacted to ensure the waste is properly containerized and labeled. All sampling and transportation will occur in compliance with applicable regulations outlined in RCRA and by the U.S. Department of Transportation. Contact with the disposal facility must be made in advance to allow the facility and the shipper the time required to make preliminary arrangements. A waste evaluation and confirmation process will be conducted to ensure that the waste will meet the disposal WAC.

3.3.7 Management of Waste Information

Information about waste characteristics, waste generation and storage locations, disposition plans, and waste shipments for CERCLA MLLW, CERCLA LLW, and nonroutine CERCLA IW generated at the INEEL is maintained in an electronic data base called the Integrated Waste Tracking System (IWTS). Integrated Waste Tracking System material profiles are developed to provide characterization information specific to a particular waste stream. As the waste is generated, specific information about individual containers of waste is reported in individual IWTS container profiles. Information in the IWTS material and container profiles is certified by a WGS waste technical specialist (WTS) the ensure that (1) the hazardous waste determination has been performed, (2) the information is complete and accurate based on the analytical data or process knowledge information used for characterization, and (3) the information for the container falls within the bounds of the parent material profile. A different WGS WTS then independently reviews this information for completeness and accuracy. Finally, the information in the material and container profiles is approved by a WGS WTS, thus authorizing WGS to disposition the waste in accordance with the disposition path defined in the IWTS material profile and ensuring that the waste meets the facility or facilities WAC where the waste will be disposed. This approval cannot be performed by the WTS performing the review.

The WGS WTSs use information in the IWTS Material and Container Profiles to ensure the CERCLA waste meets the acceptance criteria of the receiving facility. The IWTS also tracks shipments of waste to various facilities using IWTS shipping tasks. The receiving facility must approve shipments before they are shipped. For facilities used outside the boundaries of the INEEL, approval must be received from the facility before the waste can be shipped. This approval is not documented in the IWTS database but is maintained in a hard copy file with the waste characterization information.

It should be noted that not all CERCLA IW is tracked in the IWTS database. Routine office waste is an example of IW that is not tracked in IWTS. This waste is placed into IW receptacles that are placarded with information pertaining to what is permissible to be placed in the receptacles. Some IW is tracked in the IWTS database to ensure the INEEL Landfill Complex is aware the waste is being shipped and that it meets the facility's WAC. An example of IW that would be tracked in IWTS is color-code material such as yellow shoe covers. Because yellow shoe covers are typically used for protection from radioactive contamination, a special profile has been prepared for color-coded personal protective equipment (PPE) that has been surveyed and found not to be contaminated with radioactivity or that has been used for training purposes. Another example is empty containers where all the contents have been removed and the containers are not radiologically contaminated. Integrated Waste Tracking System containers profiles typically are not prepared for IW because waste is shipped to the facility in reusable receptacles or in bulk shipments or is noncontainerized.

3.3.8 Storage, Inspection, and Recordkeeping

All containers of CERCLA MLLW and/or TSCA PCB remediation waste generated from the cleanup activities will be stored in an approved CERCLA waste storage area until they are transferred to appropriate treatment, storage, or disposal facility. Storage, inspection, and recordkeeping will be performed according to the applicable or relevant and appropriate requirements identified in the OU 1-10 ROD and the *Explanation of Significant Differences for the Record of Decision for the Test Area North Operable Unit 1-10* (DOE-ID 2003). A sample checklist for the waste storage area (WSA) is attached as Appendix A.

Waste generated from this early remediation project may be transported to INEEL treatment, storage, or disposal facilities appropriate to each specific waste type. Mixed LLW and TSCA waste will be managed only in facilities approved for that specific waste type.

3.3.9 Managing Waste in the Area of Contamination

Work within the AOC includes soil excavation and removal, PM-2A Tank contents sampling, and soil sampling. The AOC for waste management purposes is defined as the area of contiguous contamination surrounding the PM-2A Tanks, and the TSF-26 and TSF-06 soil contamination sites. This area is delineated by the presence of radioactive or hazardous contamination from operations of these systems. Waste generated as part of this remediation effort may be managed within the AOC or at other appropriate waste management facilities. Hazardous waste generated during remediation activities that leave the AOC will be required to meet land disposal restriction standards before disposal.

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Appendix A

Comprehensive Environmental Response, Compensation, and Liability Act Waste Storage Area Checklist (Sample)

Appendix A

Comprehensive Environmental Response, Compensation, and Liability Act Waste Storage Area Checklist (Sample)

The sample checklist and deficiency resolution tracking table contained in this appendix are provided for information purposes only. The checklist along with the deficiency resolution tracking table could be used effectively in waste storage area management under this plan.

COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT STORAGE AREA INSPECTION CHECKLIST (SAMPLE)

Registration Number: ________________

No.	Yes	No[a]	NA	
1.	_____	_____	_____	Is waste present in the area? IF NO, inspection is complete, sign and date below.
2.	_____	_____	_____	Is a current copy of the registration form posted at the area?
3.	_____	_____	_____	Are NO SMOKING signs posted in the area if storing RCRA ignitable or reactive waste?
4.	_____	_____	_____	Are all waste containers labeled with the words "CERCLA WASTE" and an IWTS barcode?
5.	_____	_____	_____	Are all nonwaste items stored in the area appropriately marked or labeled for identification?
6.	_____	_____	_____	Is the housekeeping in the area adequate?
7.	_____	_____	_____	Is adequate aisle space available for personnel and equipment to respond to emergencies?
8.	_____	_____	_____	Are all waste containers closed except when adding or removing waste?
9.	_____	_____	_____	Is each waste container compatible with the waste stored in it?
10.	_____	_____	_____	Are all waste types segregated within the area to maintain requirements for compatibility?
11.	_____	_____	_____	Do quantities recorded in the logbook equal quantities stored in the area?
12.	_____	_____	_____	Are waste types and quantities in accordance with those specified in Appendix L?
13.	_____	_____	_____	Is the emergency and communications equipment present as listed in Appendix L?
14.	_____	_____	_____	Are there, or have there been, any releases or spills in the area since the last inspection?
15.	_____	_____	_____	If YES to Question 14, has the spill or release been reported to the emergency coordinator listed in Appendix L?
16.				If YES to Question 14, has the spill or release been remediated and the spill and remediation documented on this checklist?

No.	Yes	No[a]	NA	
17.	_____	_____	_____	Are all containers and/or PCB items in good condition with no leakage or signs of deterioration?
18.	_____	_____	_____	Is PCB containment volume equal to two times the internal volume of the largest PCB article or PCB container, or 25% of the total internal volume of all PCB articles or containers, whichever is greater?
19.	_____	_____	_____	Is the entrance to PCB storage marked with a large PCB ML mark (see 40 CFR 761.45, "Marking Format")?
20.	_____	_____	_____	Is each PCB item or container marked with a PCB ML or MS mark?
21.	_____	_____	_____	Are items marked with an out-of-service date?
22.	_____	_____	_____	Have previously identified deficiencies undergone resolution? Indicate status below or on back of inspection form.

Note: For each NO answer identified on the inspection checklist, note the item number and describe the nature of the deficiency in the table. A YES answer to Question No. 14 would indicate a spill and should be logged as a deficiency. Each week, indicate the status of previously identified deficiencies that have not yet been resolved.

CERTIFICATION OF INSPECTION

I certify that all of the above applicable items have been inspected. Date:____________ Time:_________

Inspector name (print): ________________________________

Inspector signature: ________________________________

DEFICIENCY RESOLUTION TRACKING TABLE

Directions: For each "No" answer identified on the inspection checklist, note the item number and describe the nature of the deficiency in the table. A "Yes" answer to Question No. 14 would indicate a spill and should be logged as a deficiency. Each week, indicate the status of previously identified deficiencies that have not yet been resolved.

Inspection Item Number	Date Identified	Description of Deficiency	Deficiency Resolution Status

<u>This checklist must be maintained at the facility for the current inspection year and 5 years hence.</u>